

CLAIMS

1. An emulsifiable concentrate comprising an active ingredient being a dinitroaniline compound, an emulsifier or an emulsifier mixture, and a solvent, wherein it comprises an amount of a diester co-solvent having the following formula:
5 $R^1OOC-(CH_2)_n-COOR^2$,
wherein:
- R^1 and R^2 , identical or different, are C_1 - C_{10} , preferably C_1 - C_6 , linear or branched, alkyl, aryl, alkaryl or arylalkyl groups, and
10 - n is an average number of from 2 to 4.
2. An emulsifiable according to claim 1, wherein the active ingredient is selected from the group consisting of pendimethalin, trifluralin and mixtures thereof.
- 15 3. An emulsifiable concentrate according to claim 1 or 2, wherein the diester co-solvent is diisobutyl adipate or a mixture of diisobutyl adipate, diisobutyl glutarate, and diisobutyl succinate.
4. An emulsifiable concentrate according to claim 3, wherein the diester co-solvent
20 comprises:
- from 59 to 67 parts by weight of diisobutyl glutarate,
- from 20 to 28 parts by weight of diisobutyl succinate, and
- from 9 to 7 parts by weight of diisobutyl adipate.
- 25 5. An emulsifiable concentrate according to one of the preceding claims, wherein the solvent is an aromatic hydrocarbon.
6. An emulsifiable concentrate according to any of the preceding claims, comprising:
- at least 330 g/l of the active ingredient, preferably from 400 g/l to 500 g/l,
30 - from 100 to 130 g/l of the emulsifier or mixture of emulsifiers,
- from 10 to 30 g/l of the diester co-solvent, and
- the solvent, to volume.
7. An emulsifiable concentrate according to one of the preceding claims, wherein the
35 emulsifier or mixture of emulsifiers is selected from the group consisting of the following compounds:

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- anionic surfactants such as alkylbenzenesulfonates such as dodecylbenzenesulfonates, for example calcium dodecylbenzenesulfonate, ethoxylated and/or propoxylated di- or tri-styrylphenol phosphates, ethoxylated and/or propoxylated di- or tri-styrylphenol sulfates, phenyl sulfonates, alkynaphtalenesulphonates, ethoxylated and/or propoxylated alcohol phosphate esters, ethoxylated and/or propoxylated alkylaryl phosphate esters, taurates, suphosuccinates, polycarboxylates,
- nonionic surfactants such as ethoxylated and/or propoxylated di- or tri-styrylphenols, ethoxylated and/or propoxylated fatty alcohols, ethoxylated and/or propoxylated fatty amines, ethoxylated and/or propoxylated alkylphenols such as ethoxylated nonylphenols, block copolymers having polypropylene glycol blocks and polyethylene glycol blocks, sorbitan esters, ethoxylated oleic acids, ethoxylates castor oils, and
- mixtures thereof.

8. An emulsifiable concentrate according to one of the preceding claims, wherein the mixture of emulsifiers comprises:

- at least 50g/l (relative to the emulsifiable concentrate), preferably from 55g/l to 65 g/l, for example 60 g/l, of an alkaline metal or alkaline metal salts of dodecylbenzene sulfonic acid, such as calcium dodecylbenzene sulfonate, for example a 60% calcium dodecylbenzene sulfonate solution in ethylhexanol or isobutanol, and
- at least 50g/l (relative to the emulsifiable concentrate), preferably from 55g/l to 65g/l, for example 60g/l, of alkylaryl ethylene oxide/propylene oxide block copolymers.

9. An emulsifiable concentrate according to one of claims 1 to 7, wherein the mixture of emulsifiers comprises:

- at least 50 g/l (relative to the emulsifiable concentrate), preferably from 54 g/l to 72 g/l, for example 66 g/l, of an alkaline metal or alkaline metal salts of dodecylbenzene sulfonic acid, such as calcium dodecylbenzene sulfonate, for example a 60% calcium dodecylbenzene sulfonate solution in ethylhexanol or isobutanol, and
- at least 40 g/l (relative to the emulsifiable concentrate), preferably from 48 g/l to 66 g/l, for example 54 g/l, of ethoxylated and/or propoxylated di- or tri-styrylphenols.

10. An emulsifiable concentrate according to one of the preceding claims, wherein the active ingredient is pendimethalin and it does not crystallize at 0°C, preferably at -5°C.

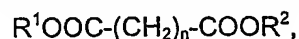
11. A method for preparing an emulsion in water of an active ingredient being a dinitroaniline compound, preferably selected from the group consisting of pendimethalin, trifluralin and mixtures thereof, comprising the step of mixing 1 part by volume of an

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emulsifiable concentrate according to one of the preceding claims, with at least 10 parts of water, and up to 500 parts by volume of water.

12. An emulsion comprising:

- 5
- an active ingredient selected being a dinitroaniline compound,
 - an emulsifier or a mixture of emulsifiers,
 - a solvent,
 - a diester co-solvent having the following formula:



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wherein:

- R^1 and R^2 , identical or different, are C_1 - C_{10} , preferably C_1 - C_8 , linear or branched, alkyl, aryl, alkaryl or arylalkyl groups, and
 - n is an average number of from 2 to 4, and
- water.

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13. An emulsion according to one the preceding claim, wherein the active ingredient is selected from the group consisting of pendimethalin, trifluralin and mixtures thereof.

14. An emulsion according to claim 11 or 12, wherein:

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- the solvent is an aromatic hydrocarbon,
 - the diester co-solvent is diisobutyl adipate or a mixture of diisobutyl adipate, diisobutyl glutarate, and diisobutyl succinate.